Before the Federal Communications Commission Washington, DC 20554

Requirements In The Broadband Data : Improvement Act :

A National Broadband Plan For Our : GN Docket No. 09-51

Future :

Inquiry Concerning The Deployment Of : GN Docket No. 09-137 Advanced Telecommunications : Capability To All Americans In A :

Schools And Libraries Universal Service : CC Docket No. 02-6

Support Mechanism :

Comprehensive Review Of The : WC Docket No. 05-195
Universal Service Fund Management :

Administration, And Oversight :

Comment Sought On Broadband Needs : NPB Public Notice # 15

In Education, Including Changes
To E-Rate Program To Improve
Broadband Deployment

Reasonable And Timely Fashion

COMMENTS OF BECKY RAINS ARKANSAS STATE E-RATE COORDINATOR

INTRODUCTION

These comments are submitted in accordance with the FCC's Public Notice released November 3, 2009 (DA 09-2376) seeking comment on various issues related to broadband access in education, as part of the Federal Communications Commission's ("FCC" or "Commission") development of a national broadband plan. The comments address the questions related to changes in the Schools and Libraries Universal Service Support Program ("E-rate").

I have been involved in the E-rate Program since January of 2001 when I took over Arkansas' State application for the state network. In December of 2001 I began assisting Arkansas applicants in the E-rate process. Under my leadership 100% of the Arkansas public K-12 educational entities filed E-rate applications in 2008 and 2009.

Arkansas is a rural state as evidenced by the number of households per land mass. 27% of the land mass has 1 household or less and 23% of the land mass has 5 households or less. Students in K-12 account for 30% of Arkansas' population. The sections of the State with sparse population have a more difficult time obtaining broadband. The deployment of broadband is important for our communities.

The E-rate cap of \$2.25 billion has not changed since the E-rate Program began. This was recognized in a letter to FCC Chairman Genachowski, Senator Jay Rockefeller (D-W.Va.) sent on October 9, 2009. In the letter Senator Rockefeller made the point that the E-rate cap should be raised. He noted that "taking into consideration growth in the consumer price index, the cap that was put in place in July 1997 has an equivalent value in August 2009 of \$1.68 billion."

As a part of its National Broadband Plan development, the FCC held a workshop covering topics ranging from E-rate reform to stimulating innovation in education research. Several panelists — most notably Sheryl Abshire, Chief Technology Officer for the Calcasieu Parish Public Schools in Lake Charles, LA — spoke about the need for raising the annual \$2.25 billion cap on E-rate funding. Tom Greaves, Chairman, the Greaves Group also discussed increasing the E-rate cap. Mr. Greaves stated that the increase in the E-rate cap should go to \$6B/year, indexed for inflation.

During the same event Kumar Garg; Policy Analyst, Office of Science and Technology discussed the evolvement of the Internet over the past ten (10) years. In his presentation Mr. Garg stated; "What's changed in the past 10 years is what we think of the Internet...when E-Rate started, we were -- a student was pulling up web pages that were text-based. And today, when we think of what Joel's talking about, when we're talking about a form of hybrid instruction that is continuous, that includes video, that includes the ability to have a digital tutor that's giving you feedback, there's somebody on the other line, we -- you need a continuous connection. The whole concept of connectivity changes. So, I think that's a major change. And so, what you think about connectivity for a student, whether they're sitting at a classroom computer, whether they're home, the kind of robust learning models that we're talking about now, it's not just pulling up a single web page and reading down. So, I think that's changed. And it changes, then, how you think about what kind of connectivity you need." The evolvement of the Internet is taken for granted. Not only has there been tremendous change in what the Internet is today; it will continue to evolve at an ever increasing rate. There continues to be educational opportunities available, new content, opportunities for students to "visit" many countries they never heard of before. Broadband must be made available so that students continue having these experiences.

The various federal programs including E Rate, Rural Health Care, Rural Health Care Pilot Program, BTOP, and BIP are encouraging if not forcing segregation and duplication of networks within state government in order to maintain program compliance. This is not the most cost effective way to provide a network for a state. Economies of scale are reduced. Vendor build-out of broadband networks with more potential business from a larger and more expansive "anchor tenant" would help bring broadband at reasonable rates to more of the population.

Vendors responding to specific program "bids" have little or no incentive to discount products and services to individual schools, school districts, libraries, hospitals, etc... given the Feds will be picking up the bulk of the tab.

Consideration should be given to allowing the State Central IT/Telecom Authority to provision services to qualified state entities from a common network and last mile aggregation services procured from qualified vendors. The program qualified state entity could

be billed for the direct vendor cost charges. Any central authority overhead/administrative costs could be handled as they are today with the E-Rate program where they are added to the end user billing. We truly believe that a coordinated modification of the all the Federal program rules would result in significant cost reductions/ cost benefits for the states, program participants and the Federal programs. There are a number of complex issues to be addressed, but we sincerely believe the interest of the nation would be better served with these modifications.

E-RATE MODIFICATIONS

11. As part of the national broadband plan, we seek comment on how the Commission can modify the Erate program to more effectively meet the needs of applicants as well as whether the program can be a vehicle to stimulate the adoption of broadband throughout communities. For example, in Portugal researchers have found that the usage of broadband in schools creates a "spillover" effect that leads to greater broadband adoption in the community as students increase their Internet usage at home and transfer their technology skills to other family members.

a. Currently, schools and libraries may obtain discounts on various services that provide highspeed access to the Internet as telecommunications and Internet access (priority 1) service We are aware that applicants may characterize their funding requests according to terminology used on the eligible services list, such as DSL, "internet access via cable modem," ATM, frame relay, T-1, T-3, Ethernet, OC-3, OC-12, ATM, "internet access via fiber optics," etc. We seek information that would enable us to better understand at a more granular level what broadband services eligible applicants are buying today.

Arkansas school districts and libraries are connected to the State network via various types of circuits as referenced above; frame relay T1s, ATM T1s, ATM IMAs (1.5M – 6M), DSLs and OC3s (fractional and full). This can be converted to the bandwidth associated with each circuit type; 1.544Mbps, 3Mbps, 4.5Mbps, 6Mbps, 384K, 50Mbps and 150Mbps. The Arkansas Department of Education is in the process of bringing the per student bandwidth to an equitable level. The first step is to bring the per student bandwidth to the 2006 ISTI metric of 2.9Kbps within each district. Even at this bandwidth per student most circuits are still saturated with Internet and distance learning traffic.

Overall, what percentage of priority 1 funding is subsidizing broadband services at what speed levels, and what percentage is subsidizing basic voice service (wireline or wireless)?

Based on the past three fund years the E-rate funds requested were in the following categories. Arkansas schools are connected to a common State Network. As such, the State applies for the connectivity and Internet access. The individual schools and libraries apply for the services they procure directly.

The table below shows the percentage of funding for each category of service for which Arkansas applicants request funding. The telecomm category is basic telecommunications service including cellular service. The percentage of funding requested is listed by category.

Broadband	Telecomm	Internet Access	Internal Connections	Internal Connections Maintenance
46%	66%	4%	26%	4%

Can we segment the applicant community that receives discounts on higher capacity broadband services based on specific characteristics (such as number of students, rural vs. urban, discount level, etc.)?

While it may sound logical to segment the applicant community based on the number of students or rural vs. urban there are other factors that cannot be captured by these measures. A small rural school needs as much or more broadband capacity as a large urban school. The applications use the same bandwidth regardless of the number of students attending a class. Rural communities cannot afford the teachers required to cover all of the required courses. To continue to offer the mandatory classes most of the school districts have installed distance learning equipment. Arkansas has 266 districts with distance learning equipment representing 413 labs. The K-12 community schedules over 25,000 conference hours of use per month.

b. When applicants develop their technology plans, what factors do they consider in determining their bandwidth needs?

The Arkansas Department of Education provides bandwidth to the schools in Arkansas. The determination is based on number of students, applications involved and the existing traffic traversing the circuit. In order to provide equitable service the bandwidth to the school district is based on 2.9K per student. As stated earlier this is just a start. Most schools have the circuits saturated and require additional bandwidth.

c. We seek comment on program modifications to maximize the use of broadband connections that are subsidized by the E-rate program. Recognizing that the statute requires that discounts be provided on services used for "educational purposes," we seek information on whether, and if so, how, past interpretations of the "educational purposes" requirement have restricted demand aggregation at the community level to support higher capacity broadband. For example, the program could be modified to allow for use of broadband facilities at schools by the general community, rather than just by school faculty and students. We seek specific examples of whether and if so, how, expanding the permissible use of E-rate supported services could confer benefits to a larger community or encourage partnerships with private or public organizations to pool resources to maximize broadband utilization. What practical or operational impact would such a change have?

Libraries are trying to fill the need for community access wherever possible but they have limited resources to provide adequate access to all the community needs. Patrons line up outside rural libraries waiting for their fifteen to thirty minutes of time for accessing information, conducting job searches and completing resumes. Community members, students from high school through college drive up to the parking lot to connect to the library's wireless service.

Access to the school's network should be available to the communities when school is closed. The connectivity to schools is available 24 hours a day 7 days a week. The service is sitting idle during the time schools are closed. Additional usage during this time does not increase the cost of service. The FCC and constituents are not receiving their money's worth by not filling a community need.

Discussion of one-to-one computing has been around for several years. Not all parents, especially in rural areas, have had access to computers and the Internet. They may feel

discouraged and helpless when their child brings their computer device home. With the ability to learn and become familiar with the device and the Internet at the school the adults learn what value they bring.

People must be introduced to broadband. They must be educated to the advantages of broadband. They must see how broadband applications can improve their lives. Once the grass roots training is completed more and more families will want to have the service available at home where it can be used anytime they choose without leaving the house. This approach is the opposite of "build it and they will come". Through this effort broadband will be in more demand aiding in the deployment of broadband.

Local, county and state governments are adding services on-line. The community must have access to these services. By having the school's resources available after hours and weekends community members can conduct their personal business at their convenience.

d. We seek comment on any legislative changes that would expand the classes of eligible users. For example, the statute currently limits E-rate support to elementary schools and secondary schools, which are defined by each individual state. What would the impact be of modifying the statute to permit colleges, community colleges, pre-kindergarten, Head Start, or other entities to participate in the E-rate program?

Program rules currently do not allow use for any type of education that does not take place in any non K-12 location. Nor does the program allow for use of the E-Rate eligible services by non educational personnel. The rules must change to allow flexibility in the use of the services.

Education begins with Head Start programs and continues through college. In some instances this is carried through to adult education.

E-rate funds should be available to all K-20 educational entities, whether they are 3 years, 40 years or older. Education is a staple the nation cannot afford to short change. We must fund broadband and the equipment necessary for the transport of data, internet access, and distance learning.

There are youth housed in correctional facilities. Those institutions and live in medical facilities/counseling centers—any institution where a school aged child may be confined for

extended periods of time and be expected to continue their education should be included in eligibility if some sort of space is dedicated to learning (even patient rooms with laptops) and some sort of educational staff (volunteers) spend scheduled time there to sustain the educational efforts of the child/teen/young adult.

Arkansas legislation would have to be changed to identify Head Start and Pre-K as an eligible school.

The cap of \$2.25 billion on E-rate funds must be increased before the number of eligible entities is increased.

e. To what extent does the fact that the E-rate program does not currently fund computers and other end user equipment inhibit the use of broadband by schools and libraries? Likewise, to what extent does the fact that the E-rate program does not currently fund training for teachers or librarians in the use of technology inhibit the use of broadband by schools and libraries?

The fact that broadband and technology equipment are available in the schools and libraries districts does not mean they will be used to the fullest extent. There are many applications available to the teachers. Teachers must understand what is available and how it is used to determine the best educational resource for their individual needs. In order to put to use the technology the teachers need continual training on all aspects of integrating technology into the lesson plan. Education is only as good as the teachers.

As with teachers librarians need continual technology education. The libraries have become the hub for community access. Many libraries are providing assistance on job searches and resumes. The patrons they are assisting whether urban or rural may never have touched a computer. It is up to the librarian to know how to use software programs to help with bookkeeping; presentations or just writing a letter. They must know what is available on the Internet and how to access the information.

We seek specific information regarding what types of services are not available to teachers, students and library patrons due to lack of funding for end user equipment and training. If the E-rate program were to fund computers and training, what would the projected demand be?

Libraries do not have enough computers to satisfy the growing demand. With the addition of more computers there is a need for broadband to connect the library to the Internet. Librarians need to be educated in various applications in order to assist the patron accomplish their task. The E-rate cap must be raised before any of this can be accomplished.

f. Currently, WANs are not eligible for support "to the extent that states, schools, or libraries build or purchase a wide area network to provide telecommunications services." Would modifications to this rule regarding WANs, which link schools and libraries within a district or link several school districts together, result in greater broadband deployment?

The eligibility of WANs that cross a single right-of-way must be reconsidered. Without the ability to lay fiber between the buildings the district must choose a recurring leased service.

When school districts are forced to install another circuit to connect a building across the street it creates an undue recurring costs. On a state network, it forces additional traffic on the state backbone. The building to building traffic traverses the state backbone causing significant traffic and bandwidth demands. The traffic should be collapsed into one pipe at the district level. Intra district traffic should be kept at the local level.

g. Are there any programmatic rules and policies that have the effect of deterring requests for broadband funding?

The complex and inflexible nature of the E-rate Program, the restrictions on use of the service cause an undue burden on the applicant.

When an item does not appear on the eligible services list it is considered to be ineligible. The perceived restrictions stop district and library personnel from thinking outside the box and looking into the future when planning for future growth.

E-RATE DISBURSEMENT

12. We seek comment on how changing the E-rate disbursement and discount methodology might maximize the deployment of broadband.

a. One possible modification would be to create a new priority level for schools and libraries that do not have broadband or that have extremely slow Internet speeds to permit those entities to receive funding in advance of other eligible requests, which could enable such entities to "catch up." An alternative would be to provide increased E-rate discounts for entities that wish to implement certain levels of connectivity. We seek comment on other methods by which the

Commission could implement such changes, if they were proposed.

The world has evolved from the era of black and white television to large flat screen LCD panels. Yet the classroom still resembles the classroom of the 1950,s. The future of education is dependent on broadband to access the current and indeed future applications. The demand for connectivity will continue to grow. Students in the entities that are not able to obtain broadband services suffer. They are behind not only US standards but behind many other countries as well. In this global economy the lack of education brought on by not having all the available resources is a determent to our country. Our youth will not be able to participate in the global economy.

Schools and libraries must have the resources. A five (5) year time period can be established to bring the entire nation's schools and libraries up to a reasonable standard. During this time, the effected entities can receive a discount of 90% for the installation and first three years of recurring costs.

The lack of broadband may be caused by a deficiency on the service providers' side. In this instance the provider should receive priority for funding from the Universal Service High Cost Program.

b. Currently, the program's funding varies for applicants based on the number of their students who qualify for free or reduced lunch and based on their geographic location. Using this measure, discounts range from 90 percent to 20 percent of the pre-discount price for eligible services, with the poorest schools receiving funding to pay for 90

percent of eligible services. Some rural schools receive additional discounts. The Commission could recalculate these Erate discount levels to factor in not just poverty and whether the school is located in a rural area, but also whether the entity lacks broadband services. In addition, the Commission could change its priority structure to give preference for those schools that have not received funding for internal connections in several years. We seek comment on the extent to which schools that have not received funding for internal connections (Priority 2 funding) need to improve their internal connections in order to most efficiently use their broadband connections now and in the future.

Adjusting the discount levels for those entities that lack broadband is an acceptable alternative. The first item is to determine at what bandwidth level of bandwidth is considered adequate. Would this determination be made on the individual school building level or the district level? Once adequate bandwidth is defined the entities that fall under this bandwidth can be given a 90% discount for one year to cover installation and the first year's recurring cost.

The Priority 2 discount level does not meet the average school district. In Arkansas there are 261 school districts, and charter schools. There are fifteen (15) Educational Service Cooperatives. In small districts the difference between discount percentages can be one or two students. These schools are just as needy as those that met the discount level to receive funding. The breakdown of discounts for the 261 school districts, and charter schools entities is listed below:

- 28 have a discount of 90%,
- 13 have a discount between 86%-89%
- 41 have a discount between 81% 85%
- 24 have a discount of 80%
- 72 have a discount between 70% 79%
- 26 have a discount between 60% 69%
- 6 have a discount at or below 50%

The information points out how many entities have had the opportunity to receive funding for Priority 2 funding. The 2009/2010 funding year the discount for Priority 2 has dropped to 80%. The news that the discount was going that low did not come until the summer of 2009.

Because there was no indication that there was a possibility of the discount dropping this low, the applicants did not make a further effort. In applying for Priority 2, the applicant has to go through the entire E-rate process including application review. This is a time consuming process for already over-worked technology coordinators. After 2-3 years of going through the process only to hear that there were not enough funds to reach the applicant's discount level they became discouraged and frustrated and quit applying for equipment. The result is pent up demand. Because the lower discount applicants are not applying for Priority 2, it is difficult to project what the demand on funds would be.

The table below provides an example of the funding requested and approved over the past three years. Priority 2 funding request for Fund Year 2009 are still being processed. The information shows how far the funding has to go to satisfy the requests.

Year	Funds	Approved	Funds requested for	Approved Funds for
	requested for	Funds for	Internal Connections	Internal Connections
	Internal	Internal	Maintenance	Maintenance
	Connections	Connections		
2007	\$7,416,720.61	\$5,166,432.02	\$ 617,546.21	\$459,008.41
2008	\$4,227,300.15	\$ 478,279.48	\$1,061,753.02	\$710,804.91
2009	\$4,250,162.50	\$1,189,054.20	\$1,078,255.77	\$585,459.46

c. To what extent have current rules inhibited the development of or expansion of existing state, regional or local broadband networks? Are there changes to the Commission's rules that would facilitate these types of networks?

State networks provide a tremendous benefit to the E-rate Program. All contracts must go before the Office of State Procurement. The connectivity is included in one application instead of spread across 267 applications. Review is handled by one person instead of reaching out to the 267 applicants. The cost of service for a state network is also less than what the individual locations could receive. CIPA filtering requirements are handled on the state level ensuring a better filtering device.

There is equipment necessary at the state's central site just as there is equipment required at the applicant site. There is equipment available to optimize bandwidth that is

procured to achieve a better throughput on the circuits. There is necessary core equipment. With the Two-in-Five rule, neither the state network, nor a regional network can procure the equipment to support the school network and receive E-rate support. When the state or regional network adds an entity to their applications list of consortium members it automatically takes away one of the members years where they could receive funding. It is recommended that the Two-in-Five rule be applied to the state and regional networks entity number and not affect the individual consortium members. This would allow the state and regional networks the ability to grow the network as required to provide adequate bandwidth. They can look to out-of-the-box solutions and build for the future. With the current economic crisis experienced by states has put a strain on even the most necessary of services.

d. If the Commission established a national broadband goal for schools or libraries, what effect would that have on demand for E-rate funding?

The goal must be realistic and achievable. The goal must allow for quality transmission of data, online training, video and video streaming. All schools and libraries would try to achieve this level of connectivity. Demand for Priority 1 funding would increase to such an extent that there would be no Priority 2 funding. At the current cap of \$2.25 billion, funding for Priority 1 applications may not reach the entities in the lower discount brackets.

E-RATE FUNDING

- 13. We seek comment on the implications of modifying E-rate funding to support additional broadband deployment and how changes to the E-rate program would improve the ability of the program to meet applicant needs for broadband.
 - a. To what extent does the annual E-rate funding cap of \$2.25 billion limit the extent of Broadband deployment by eligible schools and libraries?

The cap of \$2.25 billion limits the purchase of equipment necessary to properly utilize additional bandwidth. This in turn limits the growth of Internet access and distance learning. It is difficult to know how much funding is needed to satisfy the pent up demand. Many applicants have stopped filing for priority 2 services. They have become discouraged after

receiving funding denials several years in a row because there are not enough funds to cover their request.

Funding cannot stop when the service and equipment is installed. Technologies fail – and the replacement cycle must be considered.

What are the financial or programmatic implications of increasing the cap to fund additional services not currently covered by E-rate?

Increasing the cap would make available service and equipment that would move the nation forward in broadband.

There is an urgent need to bring broadband to the community. Funding must go where the most need is. This is typically where the most economic distress is. Funding broadband deployment at the local school and library level increases the size of anchor tenants. This then becomes a better business reason for providers to extend broadband to the community. It is also an economic benefit for community.

In some areas the cost of bandwidth is dropping. This is not a reason to limit the increase in the cap. While the cost is dropping the requirement for more bandwidth is growing.

b. To the extent the Commission modifies its E-rate rules to encourage additional requests for funding for broadband services under priority 1, how would that change likely impact the availability of funding for priority 2 services?

If the Commission modifies its E-rate rules to encourage additional requests for funding broadband without an increase in the cap, there would be no funding for priority 2 services. This is detrimental to the applicants. Without the proper equipment to utilize all the available bandwidth, there is no reason to add broadband. The \$2.25 billion cap does not provide enough funds for applicants to fulfill their mission of educating students and assisting library patrons.

d. The Commission could decrease the discount levels for basic telecommunications, or otherwise modify the existing discount levels, to increase the amount of E-rate funds available for broadband deployment. What would be the effect of such a change?

Applicants utilize the funds received from basic telecommunications to help procure non-E-rate eligible items required to operate the district or library. While it would be ideal if the funds went back into the technology budget the current economic crisis has forced some applicants to pay other bills. The local tax base continues to decrease as industry continues to close doors and families lose jobs. People are only spending funds on the basics. Contributions to schools have declined.

Would schools and libraries have to upgrade personal computer equipment, internal wiring, servers, and other hardware?

Schools and libraries need to upgrade personal computer equipment, internal wiring, servers, and other hardware. The applicants that have not received E-rate priority 2 funding have equipment that is not designed to handle the amount of traffic a broadband connection has.

The number of computing devices and distance learning labs will increase. Many applicants would like to move to one-to-one computing. This requires a better infrastructure within the buildings and around the campus.

g. Additionally, we seek comment on suggestions for coordinating with federal or state agencies on grant programs that could supplement the Commission's E-rate program. For example, the

United States Department of Education's Enhancing Education Through Technology State

Program (Ed Tech) provides grants to state educational agencies to improve student achievement through the use of technology in elementary and secondary schools. Money from grants such as this, in combination with E-rate funds, could greatly increase a school's broadband connectivity.

Funds for the United States Department of Education's Enhancing Education Through
Technology State Program (Ed Tech) have been steadily declining. It would be ideal to have the
funds increased and have end user equipment funded through Ed Tech grants. If this is not a

possibility E-rate Funds for equipment would be sent directly to the state Department of Education. The department would have the responsibility for disbursing the funds.

Coordination with federal or state agencies on grant programs that could supplement the Commission's E-rate program can be accomplished. The restriction against using E-rate funds to offset other federal grants would have to be lifted. For example the Rural Utilities Commission does not allow E-rate funds to be used to match the RUS grants. The applicants should be allowed to use federal or state grant funds to cover the non-discounted portion of E-rate eligible services or equipment.

An alternative is to have broadband deployment a coordinated effort between the applicant and provider. The applicant can apply for E-rate funds for the recurring costs. The provider could apply for High Cost funds for the broadband build out.

The Schools and Libraries and the Rural Health Care program can work together.

Instead of having broadband to each facility it can be installed in the school or library and extended to the health care provider. The cost of the broadband can then be shared between the two facilities as opposed to having two separate broadband connections.

h. Alternatively, E-rate funds could be used in conjunction with funds from other entities to support broadband projects. For example, upon a state's recommendation, a particular project might be funded by having the state pay for the computers and training, and providing E-rate discounts for the broadband connection. Are there other specific ways the Commission could better leverage the benefits of E-rate funding through coordination with other federal, state, local or non-profit programs that seek to advance broadband deployment?

States should be given the authority to determine the priority of school and library broadband projects. Broadband maps currently being developed should be sent to the state E-rate coordinators as part of the effort to and should be included in the state's educational broadband plans.

The projects would be treated in a similar fashion as projects in Alabama, Louisiana and Mississippi were handled after the hurricane Katrina. The projects would be approved at the state level. This allows the state to maximize broadband deployment amongst educational entities leveraging broadband where there is the most need. The projects would be funded at a

90% discount level and be given priority over all other applications. Because the project has met all the state requirements the review process should be less rigorous.

CONCLUSION

Thank you for the opportunity to comment on this important issue.

Sincerely

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